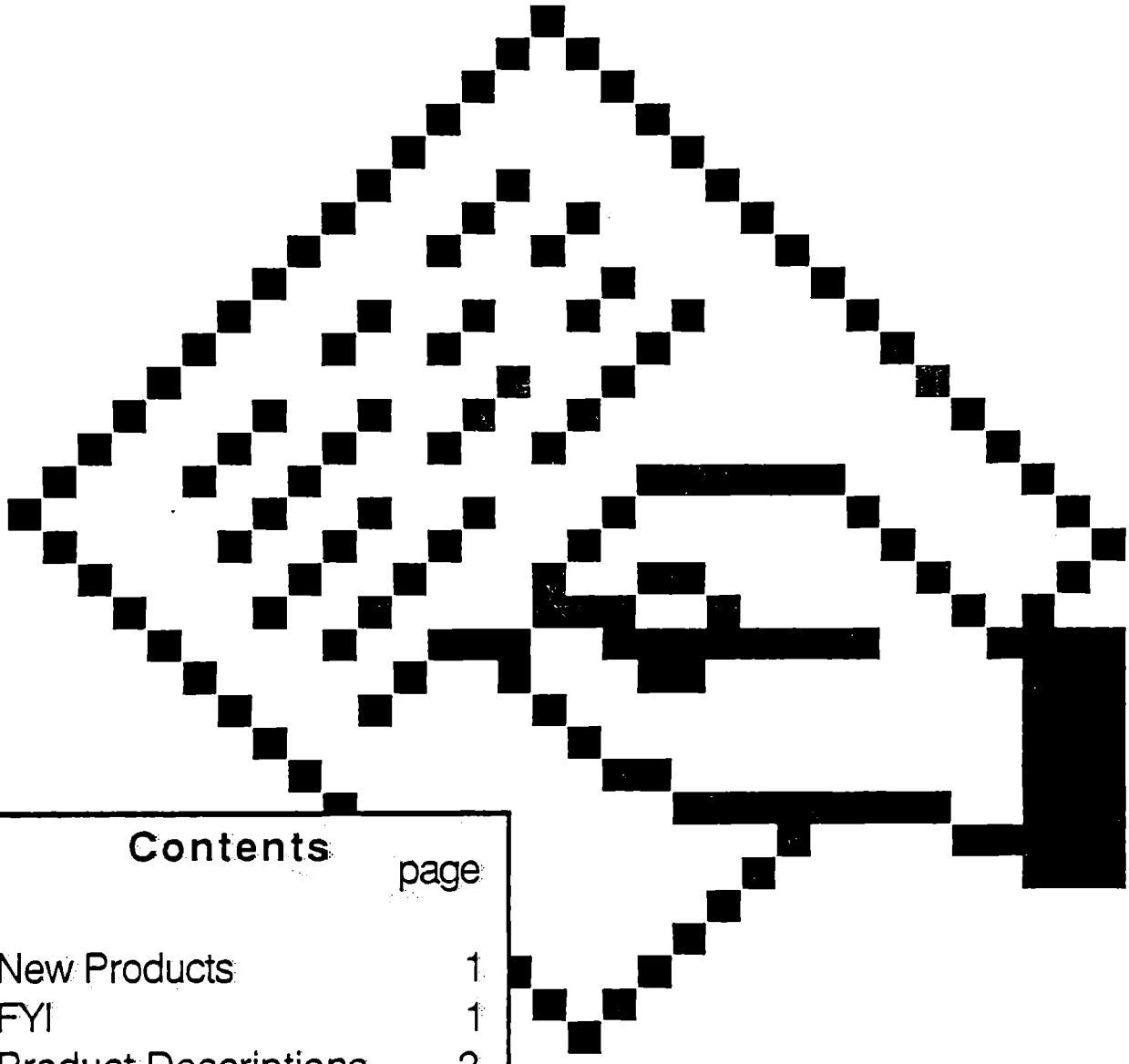
The University of Texas•Texas Union MicroCenter

Catalyst

July 1985
Volume 2•Number 2



Contents

	page
New Products	1
FYI	1
Product Descriptions	2
MacroThoughts	8
July Class Schedule	10

The New MacWrite/ MacPaint Upgrade

Texas Union MicroCenter•210 East 21st Street•(512) 471-MACS
Store Hours: Monday-Friday•9:00am-4:00pm

NEW PRODUCTS

EASEL

The Easel is a well designed folding carrying case made of ripstop nylon which holds up to 20 disks in individual pockets. The case folds itself into a stand that will display your disks for easy access and closes into a flat transportable case. $11.95⊕

MACSTATIONS

Many of you have been asking about the Mac Stations, if you haven't seen one yet, they are stands that hold the computer allowing the printer to sit on top of it. They also have space for the external drive, disks, paper and manuals. You'd pay almost $90 for these stands from a retail dealer. We have them ordered and will be getting them soon. $59.00⊕

MAXELL DISKS

The MicroCenter will soon be carrying Maxell disks for $22/box of ten. These are premium quality diskettes and offer a considerable savings over the Apple diskettes at $37/box of ten. As an added bonus they come with more labels and the labels are color coded. We will also continue to carry Apple disks. $22.00/BOX⊕

HEAD CLEANING DISKETTES

The MicroCenter store will soon be selling head cleaning diskettes for prolonging the life of your 3.5 disk drives. The package includes 2 cleaning disks, and a bottle of solution. Each disk is good for approximately 15 cleanings. $12.95⊕

HAYDEN SPELLER

Tired of proofreading? Stay up too late to focus on the page? Can't spell? Help is here! HAYDEN SPELLER, compatible with either MacWrite 2.2 or Microsoft Word, will check all your spelling for you. You'll sleep easy knowing your paper is free of typos and misspellings. $51.95⊕

MACEDGE

We've finally received some educational software for kids at the MicroCenter. MacEdge by Think Educational Software is designed to develop a variety of math and reading skills from the primary to the junior high level. The programs are highly motivational and reinforcing, making use of several different game formats. MacEdge makes full use of the Macintosh four-voice music synthesizer to generate attractive "play along" music. $32.95⊕

WORD CHALLENGE II

Word Challenge II is a new game whose object is to discover as many words as possible using contiguous letters which are randomly arranged on a grid. A variety of options allows you to construct a game suitable to your skill level while pull down menus make the options easily accessible. $25.95⊕

ULTIMA II

Ultima II is a wonderful fantasy game by Sierra. In this game you are allowed to choose the race, sex, name, mental, and physical traits of your character. Time zones change from the days of sword and sorcery , to days of futuristic space travel. When the game begins you are totally in the dark about what the object of the game even is, but finding out what you're supposed to do is half the fun. This is probably one of the best games we've ever played on the Mac. $39.95⊕

FOR YOUR INFORMATION

MACWRITE/MACPAINT UPDATE-FREE!

We have been waiting since last November for the new Write/Paint. Well, it is finally here. To get your copy of the update bring your *original* Write/Paint disk and your *original* System disk in to the MicroCenter. Remember, the updating process completely erases the disk before putting the new versions of the programs on it, so make sure you have a back-up of any files you want to save including Scrapbook and Notebook files. Plan on leaving the disks with us for a couple of days.

The update includes new versions of MacWrite, MacPaint, The Finder, The System, and a new font called Taliesin. It also includes a new Font/Desk Accessory Mover.

The new MacWrite is disk based allowing for longer documents on both the 128K and 512K Macintosh. It also includes a 6 line/inch option which adjusts line spacing to match that of a standard typewriter, and some other new formatting features which you will find useful.

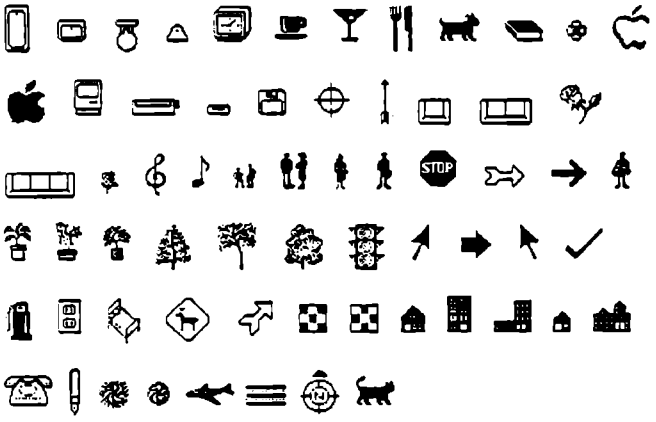
The new MacPaint has been changed to allow you to print to the LaserWriter as well as the ImageWriter.

The new System has a new desk accessory to allow you to choose between different printers.

The new Finder is much faster than the old one and includes several new features including Print Catalog, a Mini-Finder, and a very dangerous feature called Shut Down. When it is selected the computer ejects both disks and resets. Be careful not to select it by accident as it has no dialog box to ask if you are sure you want to shut down.

The Font/Desk Accessory mover can be used to move both fonts and desk accessories in and out of the system file. On a 128K Mac it will not move fonts bigger than 18 pt. We have heard that it does not work with all "third party" desk accessories so beware. So far we have not had any trouble with it.

The new font is a picture font similar to Cairo. It includes characters like:



There is documentation on the disk about all the changes and how to use them for you to print out. Bring in your disks for this free update.⊕

CHEAP UPGRADES

There are many vendors offering 512K upgrades for the Macintosh other than Apple. **Make sure you know what you are getting into before you buy one of these upgrades.** Any non-Apple modifications of your computer will void your warranty. The cost of replacing a modified 128K board gone bad is approximately $400, a 512K board is approximately $700.⊕

APPLECARE- A GOOD IDEA!

If you already have AppleCare for your system, pat yourself on the back. If you don't have AppleCare, read this article.! Believe it or not, the Macintosh and its peripherals do occasionally malfunction. Luckily, if they break you can just bring it down to the MicroCenter for repairs. If you bought AppleCare, you'll find that getting your computer repaired is a relatively painless process. If, however you forgot to buy the extended warranty or you thought it wasn't worth the money you may be in for an unpleasant surprise. AppleCare is well worth the money since it is inexpensive compared to the cost of repairing a broken computer. The average cost of servicing a computer or printer is $150.00. AppleCare is $84.00 for a 128k Macintosh and $48.00 for the Imagewriter. These prices cover the hardware for 12 months. Buying extended warranty for the Imagewriter is an especially good idea since the printer has moving parts which are more susceptible to failure than electronic computer parts. After your initial computer purchase, you have 90 days to buy AppleCare. If you let the 90 days pass and then decide that you want .AppleCare, you must bring your system in to be inspected. The fee is $25 per component. AppleCare can be renewed each year.⊕

PRODUCT DESCRIPTIONS

MACDRAW

MacPaint, the original graphics program for the Macintosh was a pixel oriented graphics program. This means that when you drew pictures with the various tools it provided for you, you were actually turning pixels either on or off to form your picture. This allows you to draw very detailed pictures, especially with the "Fat Bits" option. However, it limits the resolution of the output to that of the Macintosh screen, and will not let you take advantage of the extra resolution of either the LaserWriter or the Imagewriter High Quality mode. It also will not deal with more than one "layer" of pictures. You may have noticed that if you moved a square over a circle and later decided to move it somewhere else, your circle would have a big hole in it. When you moved the square over the circle, you were changing which pixels were turned off and which ones were on permanently (except for the undo procedure which will only affect your most recent action). If you wanted the circle back, you had to redraw it. This made it difficult to modify a floor layout or organization chart. It also prevented you from making large changes to your picture as a whole when you were in the "Show Page" mode. Lastly, the picture took up a lot of space on the disk. Well, MacDraw is different.

MacDraw is an object oriented drawing program for the Apple Macintosh. Its object oriented nature makes it much better for most business applications. You can create drawings up to 50" x 96", you can move objects around while viewing the whole drawing, you can place objects on top of one another without losing the lower objects, and perhaps most importantly, it can take full advantage of high resolution printers like the LaserWriter.

With MacDraw you can easily create forms, floor layouts, organization charts, and basically any sort of non-numerically based drawings (numerically based drawings are the forte of MS-Chart and other charting programs). When printed on the LaserWriter, you end up with camera ready art.

Unlike MacPaint, you must go get a particular tool each time you want to draw something. If you want to draw several squares, you will have to go click on the square tool before you draw each square. This is because each square is a different object. As separate objects, each square can be manipulated separately. To select one, you only have to click on it. You do not have to carefully select only the square with the marquee like you do in MacPaint. After selecting it, you can resize it, change its fill pattern or line thickness or delete it altogether. If you do wish to deal with a whole group of objects at once, you can group them together with the group command.

To further aid your productivity, you can open up to 4 documents at once. This allows you to have a library of various furniture items for a floor layout in one document, and cut and paste them into another document. This saves you the effort of redrawing the same objects over and over again.

MacDraw is much more useful for serious work than MacPaint. For more information come by the store or go to one of our classes listed elsewhere in this issue. **$83.00** ⊕

Blake Justice

CONCERTWARE+

Rumor has it that what this country really needs is a good 5¢ cigar. Actually, the idea the "rumor" is attempting to convey is that although quality is desired, a modest price is also needed. With that in mind, the MicroCenter would like to introduce you to **ConcertWare+**, the recently updated interactive musical composition program for the Macintosh by Great Wave Software.

If you have seen the program **MusicWorks**, then you already know what kind of program ConcertWare+ is. For those of you who are not familiar with MusicWorks, allow me to give you a generic description of MusicWorks and **ConcertWare**. They are known as music synthesis/transcription programs. These programs produce sequences of sounds that resemble what you might hear when a traditional musical instrument plays the music for a particular piece. Indeed, through programs of this type, the Macintosh effectively becomes an instrument of music.

Since I have placed both MusicWorks and ConcertWare+ in the same general category, you might be wondering why I might prefer one over the other. The reason I prefer one to the other is quite similar to the reason I prefer one word processing package to another. For example, MacWrite will most generally do the job, if your writing is somewhat simple and does not require a large amount of formatting, Microsoft Word will work for you whether your writing is simple or complex. By this same token, music synthesis programs range from the very simple to the very complex. ConcertWare+ is the Microsoft Word of music synthesis software.

The ConcertWare+ package is made up of three components. These are the "Music Writer," "InstrumentMaker," and "Player." The Music Writer is a musical editor. That is, it allows you to transcribe conventional musical notation into a notation that the computer can eventually process. Fortunately, the way in which the transcription is done is in the way that music is normally seen when it is "written down." Even if you are not adept in musical notation, you will find that it is not difficult to take standard sheet music and "click" it into the Macintosh's screen. For those of you who are more advanced, you can even "play" the Macintosh's keyboard to enter a song. (In case you are wondering, the length of a song can be some 10,000 notes on a 128K Macintosh, and some 50,000 on a 512K Macintosh!). Once the song is entered, whether it was "clicked" or "played" in, it may then be edited, and otherwise more finely "tuned." Some things you might want to edit are the song's key signature, its volume, or its tempo. Also, transpositions, repeats, and special endings may also be easily done. Furthermore, you may mark a section for easy access. For example, if a particular part of the song is used more than once, but is not contiguous, you do not have to re-enter those notes. Simply mark the section, and when you come to the

part of the song where it needs to be re-inserted, use the "Goto" feature to go back to it so that you can copy (from the "Edit" menu) the parts you need. Then, paste the copy into the new section! Music Writer will even allow you to print out your song in a variety of ways, one of which is to a MacPaint file. In this way, you can add more calligraphic detail to your printed scores.

What really makes the Concertware+ music system interesting is the InstrumentMaker. This application allows you to create the wave form of your favorite instrument so that its sounds may be synthesized by the Macintosh's speaker. To make the synthesis as precise as possible, you may also add parameters defining the instrument's harmonics, vibrato, and envelope. Once you have entered the appropriate parameters for an instrument, you can play it on the "piano" keyboard display within InstrumentMaker. When your instrument design is finished you can then garnish it with an icon representative of the sounds used in the Player application. Provided on the ConcertWare+ disk, are some 40 previously defind musical "instruments." Up to eight of these or any instrument you create can be used to orchestrate a particular song.

Once the song has been specified (i.e., once its notes, its dynamics, and its instruments have been entered), it can be played by the Player application. Songs played by the Player may be played singularly, or in "jukebox" fashion. To use the jukebox feature, you must "rubberband" several songs from the DeskTop and select the "Open" option from the Finder's "File" menu. Since the ConcertWare+ disk comes with over an hour's worth of songs, this is a good way to become familiar with the package. When the Player is playing a song, you can watch its scrolling display show the progress of the piece in real time. What is seen on the display is note duration and relative pitches. Although the notes can only be changed within the Music Writer application, the instruments playing those notes can be swapped in and out as the song is being played. To do this, you simply double-click on an instrument's icon, and immediately you are given the entire library of instruments on disk with which to swap.

By the time you have read this article, the Texas Union MicroCenter should have ConcertWare+ on its shelves. If you are still skeptical as to whether this is the music synthesis package for you, come down to the store and try it out. You'll like it. $49.95⊕

Mike Puckett

MACADVANTAGE

Pascal is the easiest way to learn to program a computer. It is the language most colleges and universities use for their introductory programming classes. The Mac Advantage "compiler" is just right for the Pascal Programmer in school who needs to write larger applications than the entry level programming. It is also good for writing large applications on the Mac out of school.

The Manuals included explain the use of the program "Mac Advantage" and explain how to access the Mac ROMs in detail, but it is somewhat technical for inexperienced programmers.

The software included in the package are:

Apple Editor.	(Apple)
Resource Compiler.	(Apple)
Compiler.	(Softech)
SetOptions.	(Softech)
Executive.	(Softech)
Mac Library.	(Softech)

The Apple Editor is supplied by Softech through Apple for you to edit your programs.

The Compiler is used on the text file from the Apple Editor. The file (.Code) that is created by the compiler is not Mac Machine Language, it is P-system code, and it is not executable by the Mac without the support routines provided by Softech "P-Machine", and "Pascal Runtime".

A resource file is created by the user in the Apple Editor according to the specifications in the Manuals provided. The Resource Compiler will combine the .Code file produced by the compiler with the Resource file created in the Apple Editor to produce an operable pascal program.

There are two drawbacks to the MacAdvantage Compiler. The first is using SetOptions. This program is used to connect different options to your program but is somewhat difficult to figure out during the first few uses. However it is needed to set up the compiler and the programs you create for operation. The second drawback is the fact that you need a support routine to run your program. Softech will need to be informed of the distribution of their support routines (for royalties) should you decide to market a program. Come in and ask for a demonstration of Mac Advantage in action!⊕

Eric Johnson

THE MACINTOSH DEVELOPMENT SYSTEM

Even though the Macintosh was designed for "the rest of us", referring to those who have little or no computer knowledge, a considerable portion of the "computer knowledgeable public" have' also chosen the Macintosh. For those who do not know much about computers, the Macintosh offers an opportunity to be more productive with a microcomputer than with any other microcomputer, despite their lack of computer knowledge. For those who are more familiar with computers, the Macintosh offers much more than ease of use and increased productivity. For one thing, each and every Macintosh comes with 64K of ROM which is packed full of routines that are available to software developers and hobby programmers. These routines greatly reduce the work one would have to do in producing software, especially if the software they are going to produce uses an interface as sophisticated as the Mac's. The only shortcoming to this feature is that until recently, the development systems available on the market often gave programmers limited access to the ROM routines. They did not generate stand-alone applications, and did not generate native 68000 machine code. One of the few development systems that does not suffer from any of those problems is Apple's new Macintosh Development System (MDS) assembler.

I, for one, am one of the those who has every intention of programming his Mac. When looking for a good development system for the Macintosh, there are six features that I feel are absolutely essential for software development.

The first feature is that the system should allow full access to all of the ROM routines. Many of the routines that you would otherwise have to write for most software are already in the Mac's ROM. So, rather than spending your time writing equivalents to those routines, you use the tools that have been made available to you. This tends to leave you with more time to fine-tune your program while not having to worry about many of the mundane tasks. MDS not only gives you access to ALL of the ROM routines, but also gives you direct access to everything else in the Mac.

It is also important that the system generate stand-alone, 68000 machine-code applications. Many of the current development systems create programs that require that other files be present at run-time. Usually the other files contain run-time libraries and/or a pseudo-code driver. If the system does not create stand-alone applications and you plan to distribute your software, you will either have to require that anyone who plans to use your software also purchase the same system that you used, or you could get a license from the company which would enable you to include those files with your product. This usually involves paying royalties to the company for the use of their code. MDS generates completely independent 68000 machine code.

The third important feature is that the system should generate fast and compact code. Programs written in assembly usually tend to be more compact, and hence run faster than those written in a higher level language. In some respects this feature is more important for the Macintosh than for most of the other microcomputers. The Mac is equipped with a very fast microprocessor (the 16/32-bit MC 68000 at 7.8336 MHz), but many of the ROM routines do tasks that are relatively complex and time consuming. Therefore, the Macintosh sometimes appears to be somewhat slower than some of the other microcomputers. Depending on your skills as a programmer, MDS has the potential for helping you generate the the fastest and most compact code possible.

The fourth feature is what I call "actual use workability". This refers to how well it really works under actual everyday use for software development. If, for example, the system is barely functional with a two-disk drive 512K Mac, I would give the system a very low score in the "actual use workability" department. Of all the development systems that I have used so far, MDS gets the highest score for this feature. For the development that I am currently doing, I have configured a two-disk system. The first disk contains the System Folder which includes the: Finder (4.1), System, Note Pad, Clipboard, and the new 25K ImageWriter. I removed all but the system fonts and only have the Note Pad, Magnifying Glass, Hex-Dec Calculator, Choose Printer, and the Control Panel desk accessories installed. The rest of the disk includes the: editor, assembler, linker, executive, resource compiler, and a 512K Mac debugger. I am left with 55K of available disk space on that disk. On the second disk I have all of my source code and other files that are needed for development. I am left with 180K of available space on this disk. Although MDS is capable of running on a 128K Mac with one disk drive, I strongly suggest a 512K Mac with two disk drives. This is the configuration that I am using and I have found that it works very well.

The fifth feature that I feel is important is the price of the system. Many of the current development level systems fall in the $300.00 to $500.00 range. The MicroCenter sells

MDS for considerably less than that and, for a limited time Apple is including the Promotional Edition of Inside Macintosh at no additional charge.

The last thing that I look for in a development system is the quality of it's documentation and program examples that are included. In this instance, Apple has done a fine job with the documentation for this product. I have found that the manual that is included tends to be clear and complete. Also, MDS has the best example programs that I have seen with any Macintosh development system. There are several heavily commented source code examples that are already on disk. The examples illustrate the basic process for creating a program with the standard Macintosh interface, how to create a desk accessory, how to print via the ImageWriter printer driver, how to create a program that spans more than one file, and much more.

I find that many people are reluctant to pursue developing in assembly because they believe it is more difficult and time consuming to program in assembly. In many respects I cannot dispute this, but I would like to give my reasons for choosing assembly over a higher level language. First of all, MDS fits the criteria that I have listed above better than any other development system that I have used. Second, Inside Macintosh and some of the other programming books that are being released talk about programming in either Pascal or assembly. Since there are no Pascal compilers, assembly is the next choice. Third, more of the computer magazines are starting to include programming examples for the Mac. I have found that many of them are in 68000 assembly. Fourth, if you plan to use any of the good debuggers that are currently on the market, you are going to have to learn at least some assembly to be able to effectively use them. When I started using a debugger, I found it easier to understand what I was looking at if it was a disassembly of my assembly code rather than if it was a disassembly of my C, Forth, Pascal, or Fortran code. If I were programming almost any other computer, I doubt that I would choose assembly. The Mac is unique in this instance because no matter what language you use to program your Macintosh with, it only serves as a shell from which you are constantly making ROM routine calls. This greatly simplifies your job as a programmer, even if you are using assembly.

If I become more proficient in C or a good Pascal development system is released, I may return to the higher level languages. Until then, I will continue to enjoy my progress in development with MDS.$83.00 ⊕

Don Parsons

APPLETALK AND LASERWRITER

Appletalk is a very inexpensive network system available from Apple Computer. It allows a group of people to share resources such as a file server, laser printer, and data files. Apple's research shows that in many organizations, a relatively small group of people (2-30) work very closely together. By providing a means for these people to share both hardware resources and information resources easily and quickly, Apple has provided another means for people to increase both the quality and quantity of their work.

In its present form, AppleTalk only provides a means to share the LaserWriter. However, they have plans to introduce a file server that will allow for the sharing of data files, electronic mail, and print spooling sometime late this year. Several third party vendors are also working on file servers.

Installing the Network

In addition to being very inexpensive ($35/per computer to connect), it is also very simple to both set-up and use. The connector kit attaches to the printer port on the back of your computer just like the printer cable attaches. A cable is then connected to your connector box and run to the next computer on the network. It is a straight line system, so there is no need for a cable to loop back from the last computer on the network to the first. Hardware wise, that is all you have to do to become networked.

After you have connected your computer to the network, you must configure your software (program disks) so that they will know to look for the network and anything else that is connected to it. Apple has made this very easy. With every LaserWriter, there is an installation disk that installs all the proper drivers. It installs a new desk accessory that allows you to choose between your Imagewriter (or whatever printer you have connected to your computer) and the shared LaserWriter, Macintosh versions of the fonts the Laserwriter uses, and the actual LaserWriter drivers. Just like all Macintosh software, it is very easy to accomplish this installation. Dialog boxes are presented that offer several options. You simply click on the options you want and it takes care of the rest. Keep in mind that all disks that contain a system which you want to use with the

LaserWriter/ AppleTalk Network will have to be configured.

The LaserWriter

The LaserWriter is a relatively fast, extremely high quality printer for the Macintosh. It produces virtually typeset quality output from the Macintosh. At present it contains four fonts: Helvetica, Times Roman, Courier, and a symbols font. These are the only fonts that will give you the "typeset" quality. Other Macintosh fonts can be printed, but they will only look slightly better than if they were done on the Imagewriter. Apple has plans to introduce many other "Laser" fonts in the future, the first of them sometime this summer.

In keeping with the Macintosh philosophy, the LaserWriter allows you to mix text and graphics on the same page, giving both the same high quality treatment. It has the ability to smooth bit-mapped graphics minimizing the stair step effect found with lower resolution devices. It will also (at your option) convert Geneva to Helvetica, New York to Times Roman, and Monaco to Courier. To gain the full benefit of the LaserWriter fonts though, you should convert the fonts in your document yourself.

To use the LaserWriter, you must be connected to a network with the LaserWriter on it, have your disks properly converted, and have a 512k Macintosh. You then select the Choose Printer desk accessory and select LaserWriter as your printer. You then print as you are use to printing. The printer dialog box is slightly different. It now has a paper cassette option and a manual feed option. The page set-up dialog box has also been changed to incorporate several new options. You can select font substitution, and smoothing, which are the two features mentioned above. You can also have the LaserWriter enlarge or reduce your document for you. It can enlarge up to 400% and reduce down to 25%. This is very handy for large spreadsheets or large MacDraw documents.

When you tell it to print, the LaserWriter magic really begins. First of all it is very quiet. There is no buzz of dot matrix printers or machine gun like chatter of daisy wheel printers to disturb your office environment. There is only an occasional very quiet click as it feeds paper. It will feed standard bond paper just like a copier, or letterhead if you like. It can handle either 8.5" x 11" paper, or 8.5" x 14" paper from the cassettes (which are just like copier cassettes). It can also handle odd sized paper in the manual feed mode. When you ask it to print, the LaserWriter software looks on the network for a Laserwriter. When it finds one, it begins converting the QuickDraw commands of the Macintosh into the Postscript commands of the LaserWriter and sends the information to the printer. The LaserWriter then constructs an image of your page based on this information and sends it to the actual laser. The laser then draws the page on the copier drum and the drum transfers it to paper. Depending on the length and complexity of your document and the software you are using, this can happen in 5-10 seconds, or it can take several minutes. In all cases it is significantly faster than the Imagewriter (in some cases this is indeed faint praise), and many cases very fast (Print spooling by a file server will all but eliminate the printing wait I hope). If you want multiple copies of a document, you simply tell it how many when you issue the print command. It prints multiple copies at the rate of 8 pages/minute.

If you print a document when someone else on the network is already printing, you will get a dialog box telling you the name of the document they are printing. You machine will then wait untill it is done and begin processing your document. If you do not want to wait, you can cancel printing and try again later. You cannot use your computer for anything else while it is waiting to print unless you cancel printing.

The Bad News

The LaserWriter does not work with all software, and some that it works with doesn't take full advantage of it or has some problems. We have found that it works well with MacWrite 4.5, MacPaint 1.5, MacProject, MacDraw, MS-Word, MS-Multiplan, MS-File, and MS-Chart. It does not work with Dollars & Sense, DB Master, early MacWrites or early MacPaints. Both MS-Word and MS-Chart have some problems. Word is very slow in processing the print information (probably because it has such extensive formatting options and is disk based). It also has a tendency to crash if you cancel printing with "Command-.". MS-Chart will not print the data points in line charts and scatter graphs, but has no apparent problems with area, bar, column, and pie charts.

General Comments

The LaserWriter is very nice. It is fairly fast, quiet, and produces a high quality output of both text and graphics. It opens up the realm of "professional publishing" to small groups who have simply typed and printed their newsletters

in the past. There are numerous software packages coming out to help the "rest of us" layout pages. Both the LaserWriter and various software packages need some work in the area of speed. While printing to the LaserWriter is faster than printing to the Imagewriter, it would be nice if it were faster. It also needs to hold more paper (it now holds 150-200 sheets) and needs the capability to bulk feed envelopes. What good is it to be able to produce "personalized" letters if you have to hand address the envelopes or use labels which reek of junk mail. It would also be nice if you could use different color toner cartridges like some of the newer copiers. Overall it is very good for producing high quality pages, and when shared between 5 or more people it is economical, and very quiet.

The AppleTalk network allows a group to share the relatively expensive LaserWriter for only $35 a connection. It will really become beneficial when it supports print spooling, electronic mail, and shared data files.

Remember that one of the prime benefits of a computer is its ability to process the same data into different forms of information. Being able to share data within a group will cut down greatly the need to enter the same data several times. At the same time it is important to remember that personal computers are exactly that-personal. Even when networked, personal work should be done on your computer leaving the network open for things that need to be shared. More on this when more network functions become available.⊕

Blake Justice

⊟⊟⊟⊟⊟ MACRO THOUGHTS ⊟⊟⊟⊟⊟

MAXIMIZING YOUR PRODUCTIVITY ON THE MACINTOSH

Information is the fuel of the mind. The exchange of information is the fuel of society. Up to a certain point, the more information you feed your mind, the faster it runs, producing thoughts and conclusions based on more complete information. However, just as an engine can stall out if fuel is injected faster than it can burn it, your mind can stall out from information overload. This is where a computer fits in. It is like a turbocharger for the mind. It allows you to "burn" more information by helping you process it. It will do much of the routine tedious processing, thereby allowing you to spend more time doing the creative, comprehensive thinking. After you have used the computer to process information and done your creative thinking, your responsibilities turn to communicating your thoughts to others. In this way you are fueling society with new information, saving others from reinventing the wheel and allowing them to build on your thoughts. Computers are a great help in this endeavor.

Hopefully, at some point in the future, all communication will take place electronically. Information coming in to you will already be in a "computer form" to save you the effort of reentering it. While there are already large amounts of information in commercial databases and academic databases, we still receive much of our information on paper. If we wish to have a computer help us with this information, we must enter it into a computer. Until society as a whole becomes wired together, we must concern ourselves with our own systems, and take steps to eliminate any unnecessary work within our own "micro-environments". We can do this by carefully considering how we work, how a computer can help us, and carefully choosing hardware and software combinations that take complete advantage of the relationship between the two.

A computer's basic strength is its ability to process large amounts of data very quickly. If we pause for a moment and define data as "unprocessed information" and information as the end result of processed data, things will be much clearer in the coming paragraphs. With this in mind we can say that many different kinds of information can be derived from the same data. Numbers can be converted into pictures by using a charting program. Other numbers (statistics) can be derived from the original numbers by running them through some equations. A database program can sort data into a meaningful order or into meaningful groups. One thing all these processes have in common is that the computer is taking the same basic data and processing it into different kinds of more meaningful information. If you have already entered the data into your database, you want to avoid having to reenter it into your statistics program, or your charting program. This would negate one of the basic benefits of a computer: reprocessing the same data into different information. You can avoid this by carefully choosing all your hardware and software to share information and work together. Cutting and pasting and/or the ability to work with standard text files are the most common ways of sharing information.

Ideally, you should know exactly what you want a computer to do for you before you buy one. In reality, you will only begin to find out what they are capable of after you have

owned and used one for awhile. The best you can do when shopping for a computer is to have a rough idea of what you want to do and then buy a computer with lots of room to grow. After you have bought your computer, the real fun begins as you begin to fill out your software library. Software has two basic aspects you should carefully consider: What it does and how it does it. In other words *features* and *methods*.

Features are the main functions that a program will perform for you. For example, common wordprocessing features are: mail merge, footnotes, multiple character style and types, justification, search and replace, tabulation, and block moving to name a few. Sorting, finding, reporting and calculating are a few of the features of a typical database manager. A spreadsheet's basic function is to calculate the values of a group of interrelated cells, but you must add formula replication, block moves, and cell formatting to the list of common features. *A major feature that should be added to the list of any productivity program's features is the ability to communicate with other programs.* In other words, a program must be able to share data. The program must have a way to get information into and out of itself other than the keyboard and printer. If it lacks this feature, it will create the need for duplicate data entry somewhere along the line and lead to lots of extra work and frustration on your part. Duplicate data entry not only creates extra work, but can introduce new errors that will have to be found and corrected. Software that cannot share is to be avoided.

Methods are the way you use a program's features. They are a function of both your knowledge and experience, and the restrictions built into a program, either intentionally or unintentionally by the programmer. Until recently, methods took a backseat to features in most software. This was because memory in computers was very expensive and very limited. However, with the advent of more powerful microprocessors and cheap memory, much more effort has gone into "the how" of computer usage. The methods of computer use run parallel to the features of a program. They have a symbiotic relationship, together they can make a program both very easy to use and very powerful. In essence, a program with well thought out methods allows you to think about what you want to do instead of how to do it. Examples of methods are how you change type styles or fonts, how you change paragraph justification, how you set tabs, how you sort a database, and *how the program shares data.*

How the software works with the rest of the system also falls under methods. Sometimes what appears to be a small problem can turn out to be one of the most frustrating shortcomings of a particular software package. How it is copyprotected has a great effect on how you can use it. If you cannot move it onto a disk with other programs, its usefulness will be greatly diminished. How it works with different hardware configurations is also very important. For example, if it will not recognize a printer connected to the modem port, you could run into very frustrating problems. On the otherhand, what appears to be a "nice touch" can turn out to be one of the most useful aspects of a program. For example, the desk accessory feature of the Macintosh has innumerable uses. These small programs that can be accessed from within any other program are proliferating wildly. There are calendars, phone dialers, a variety of different calculators, lots of little utility programs, a terminal emulator, a small word processor and a several amusing games. If you get put on hold--no problem. Just pull out your "reversi" desk accessory and the time flys by.

Windowing is another method that is easy to take for granted, but is actually very powerful. With it you can have several different documents or desk accessories on the screen at once. You can then cut and paste information between them with the click of a mouse. You can move them off the screen for a moment to get them out of your way, and then grab them and bring them to the front with hardly a thought. You can have the clipboard displayed at the same time as the document you are working on. Using this method, you will be able to keep track of all the information you are cutting and pasting in a complex document.

Linking is another method that can greatly add to your productivity. It is a way to dynamically share information between different programs. A Microsoft Chart document can be linked to a Multiplan spreadsheet. When you change numbers in the spreadsheet, the chart will automatically change next time you open it. In this way, linking not only saves you the trouble of reentering the same information twice, it even saves you the trouble of cutting and pasting again after you make changes to the spreadsheet.

Methods are basically what make computers user friendly. They make it possible for you to work with a computer

more on your terms than on the computer's terms. The more flexible the methods are, the easier it is to work with.

In closing, do not lose sight of the particular labor saving role the computer can fill. Try to choose your software and hardware to work together, both with each other and with you. Finally, make sure you take advantage of all the labor saving *features* and *methods* that computers have to offer.⊕

Blake Justice

JULY CLASS SCHEDULE

Macintosh Orientations: The purpose of this class is to introduce the basic commands that you will use to operate the Mac with the software.

Date	Day	Time	Room
July 9	Tuesday	10:00a-11:30a	4.108
July 17	Wednesday	1:30p-3:00p	4.108
July 22	Monday	10:00a-11:30a	4.108
July 30	Tuesday	3:00p-4:30p	4.108

MacWrite/MacPaint: In this class, we'll show you how to use MacWrite to create documents and templates, organize your files, and use an external disk drive. With MacPaint, you will learn how to use the option, shift and command keys, create animated objects and more!

Date	Day	Time	Room
July 10	Wednesday	3:00p-4:30p	4.108
July 18	Thursday	10:00a-11:30a	4.108
July 23	Tuesday	1:00p-2:30p	4.108
July 31	Wednesday	10:00a-11:30a	4.108

Multiplan and Chart: Spreadsheets and charts are the topics of this class! You'll learn how to set up your spreadsheet and link it with Microsoft Chart which can create up to 42 different charts.

Date	Day	Time	Room
July 11	Thursday	2:30p-4:00p	4.108
July 15	Monday	10:00a-11:30a	4.108
July 29	Monday	1:30p-3:00p	4.108

MacTerminal/VersaTerm: Interested in computer telecommunications? This class will give you an introduction to telecommunications in general, and specifically it will show you how to get your Macintosh up and running on remote computers.

Date	Day	Time	Room
July 18	Thursday	1:30p-3:00p	4.108

MS Word: Is MacWrite not good enough for your particular word processing needs? This class will first introduce the fundamental differences between Word and MacWrite, and will demonstrate such Word exclusives as footnoting, glossaries, multiple column printing.

Date	Day	Time	Room
July 10	Wednesday	1:30p-3:00p	4.108
July 30	Tuesday	1:30p-3:00p	4.108

MS File: This course will provide introductory instructions necessary to create and work successfully within MicroSoft File. Main topics include: creating, working in and editing a data file, in addition to creating a report..

Date	Day	Time	Room
July 16	Tuesday	1:30p-3:00p	4.108
July 24	Wednesday	1:30p-3:00p	4.108

Little Tricks on the Mac: This is an intermediate level course that provides helpful hints on using your Macintosh. In addition, the font mover and the public domain Ram Disk will be discussed.

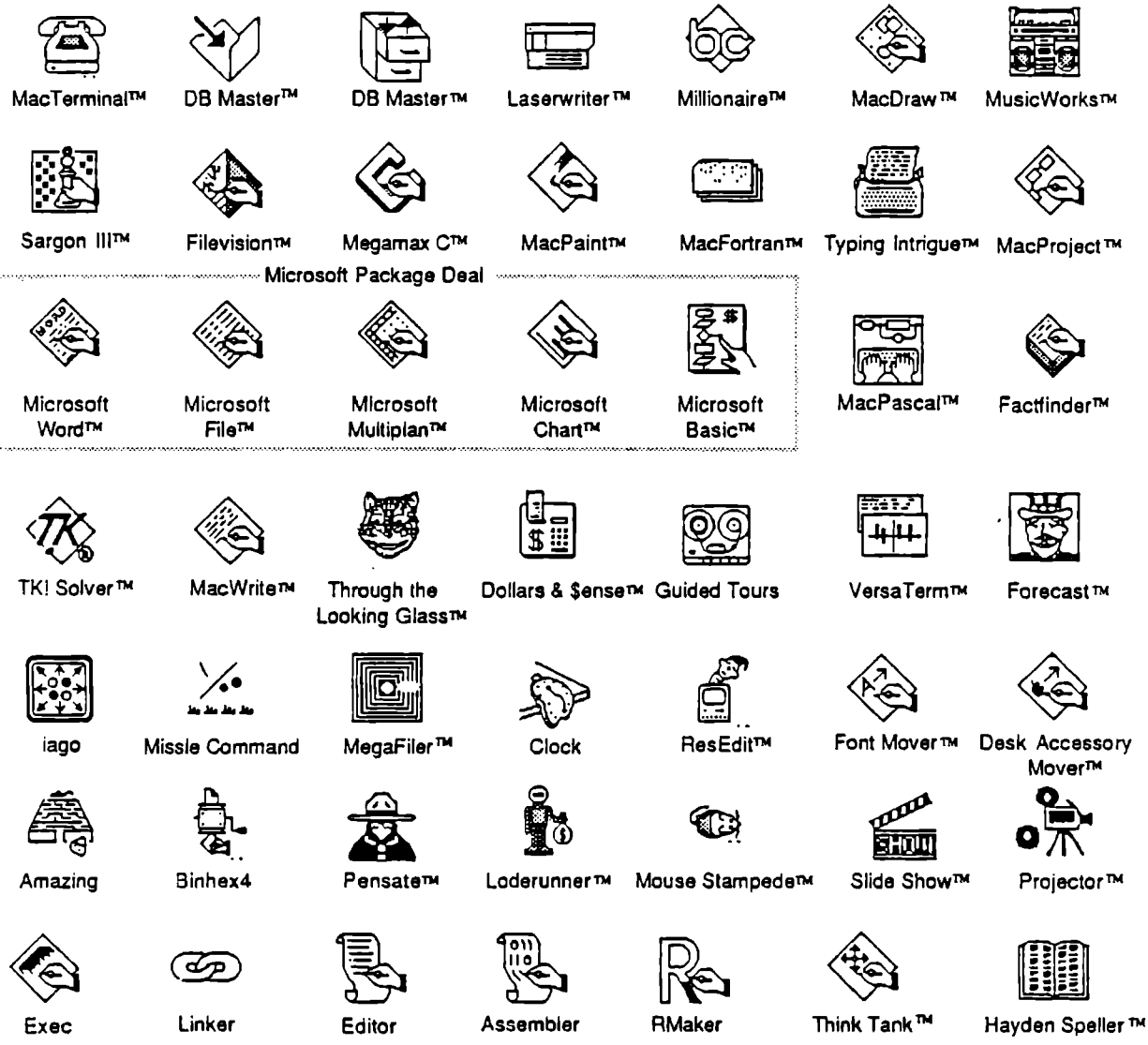
Date	Day	Time	Room
July 11	Thursday	1:30p-2:30p	4.108
July 25	Thursday	1:30p-2:30p	4.108

MacDraw: Are you ready to go beyond MacPaint? This course will cover the basic useage of this object-oriented graphics package.

Date	Day	Time	Room
July 8	Monday	10:00a-11:30a	4.108
July 24	Wednesday	3:00p-4:30p	4.108

ALL CLASSES ARE HELD IN THE TEXAS UNION⊖

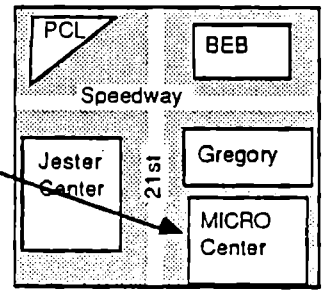
You want software?



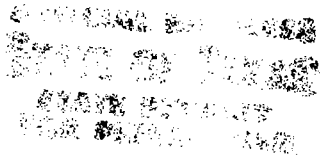
We've got software!

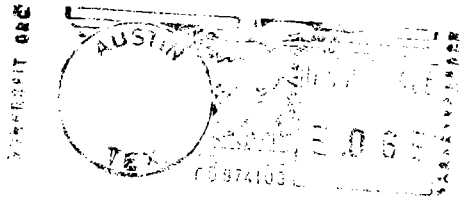
(at incredibly low prices!)

Texas Union MicroCenter
210 East 21st Street
471-MACS
9am-4pm, M-F



University of Texas
Texas Union Microcenter
P O Box 7338
Austin, Texas 78713-7338





Address Change Requested